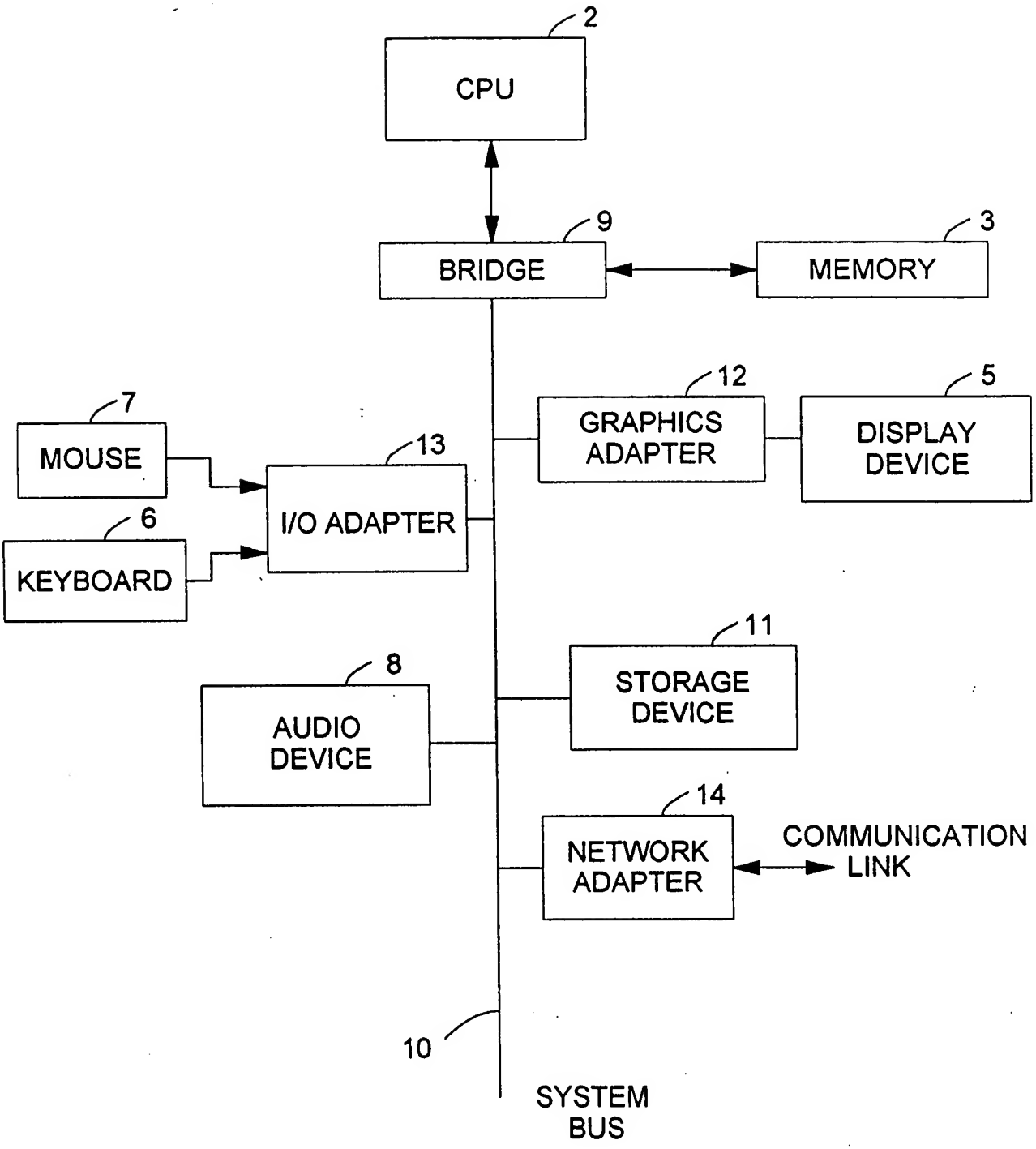
2
CPU
9
BRIDGE
3
MEMORY
12
GRAPHICS ADAPTER
5
DISPLAY DEVICE
7
MOUSE
13
I/O ADAPTER
6
KEYBOARD
11
STORAGE DEVICE
8
AUDIO DEVICE
14
NETWORK ADAPTER
COMMUNICATION LINK
10
SYSTEM BUS

FIG. 1

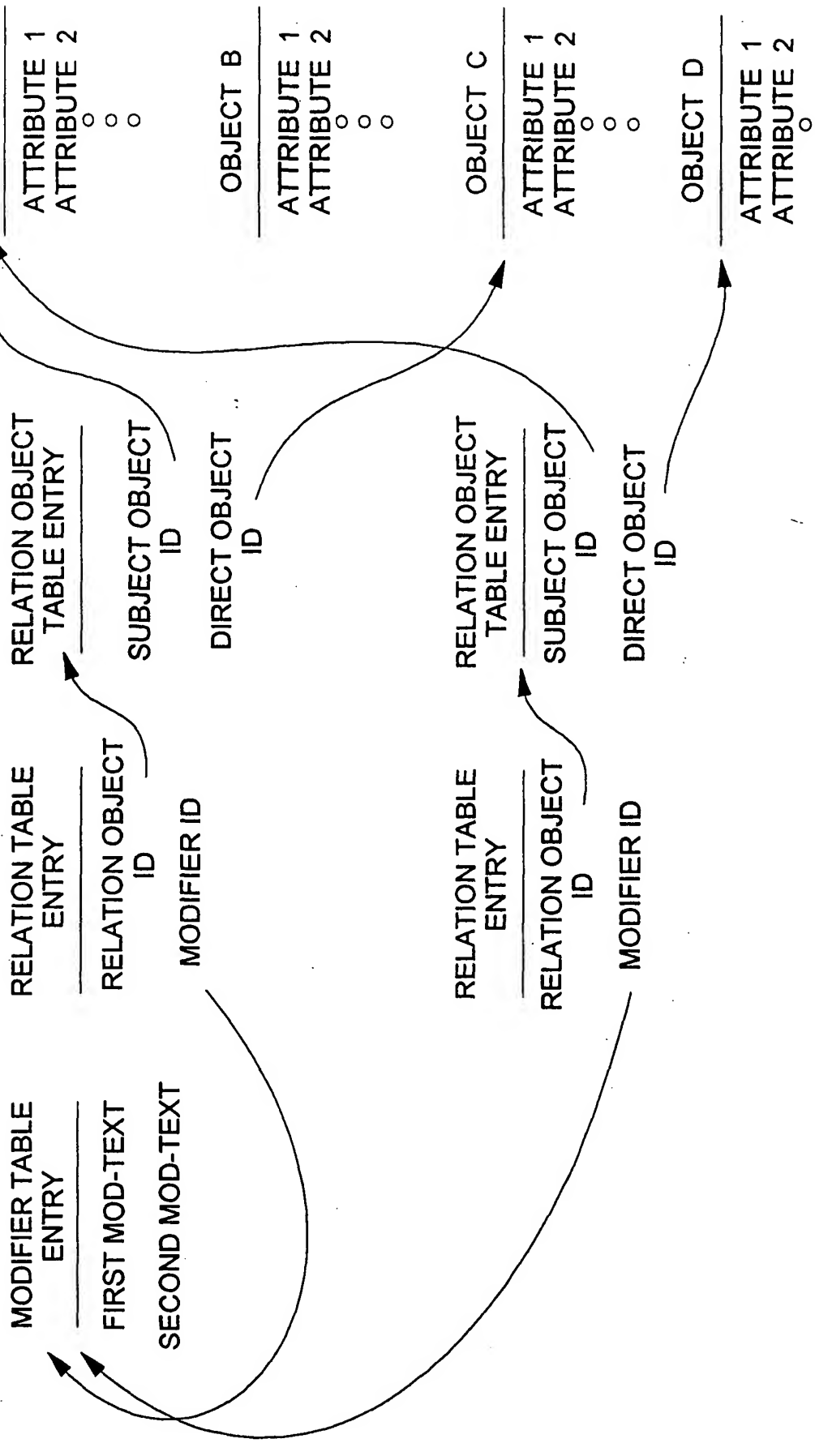
OBJECT A
ATTRIBUTE 1
ATTRIBUTE 2
OBJECT B
ATTRIBUTE 1
ATTRIBUTE 2
OBJECT C
ATTRIBUTE 1
ATTRIBUTE 2
OBJECT D
ATTRIBUTE 1
ATTRIBUTE 2
RELATION OBJECT TABLE ENTRY
SUBJECT OBJECT ID
DIRECT OBJECT ID
RELATION OBJECT TABLE ENTRY
SUBJECT OBJECT ID
DIRECT OBJECT ID
RELATION TABLE ENTRY
RELATION OBJECT ID
MODIFIER ID
RELATION TABLE ENTRY
RELATION OBJECT ID
MODIFIER ID
MODIFIER TABLE ENTRY
FIRST MOD-TEXT
SECOND MOD-TEXT

FIG. 2

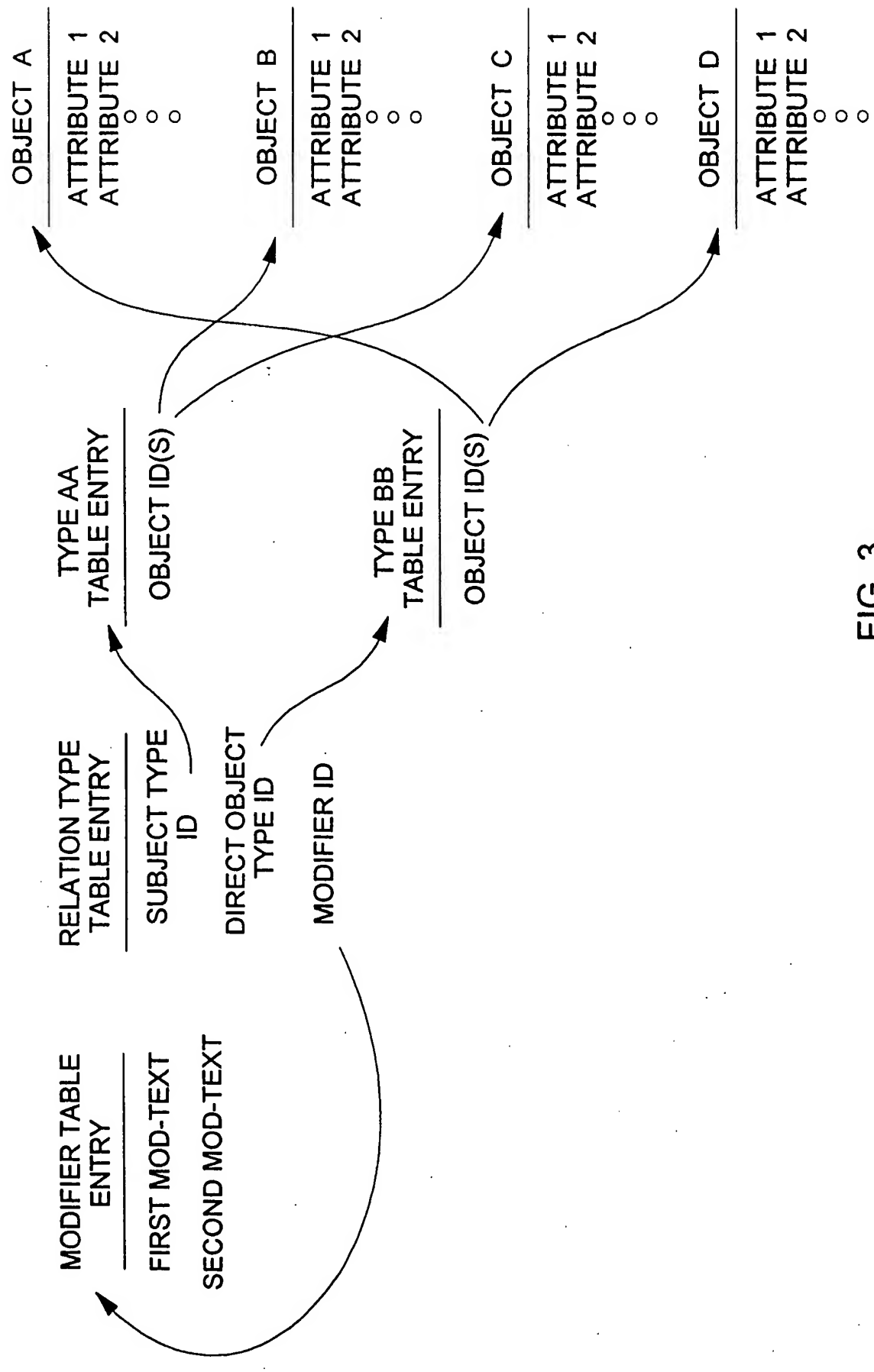
MODIFIER TABLE ENTRY
FIRST MOD-TEXT
SECOND MOD-TEXT
RELATION TYPE TABLE ENTRY
SUBJECT TYPE ID
DIRECT OBJECT TYPE ID
MODIFIER ID
TYPE AA TABLE ENTRY
OBJECT ID(S)
TYPE BB TABLE ENTRY
OBJECT ID(S)
OBJECT A
ATTRIBUTE 1
ATTRIBUTE 2
OBJECT B
ATTRIBUTE 1
ATTRIBUTE 2
OBJECT C
ATTRIBUTE 1
ATTRIBUTE 2
OBJECT D
ATTRIBUTE 1
ATTRIBUTE 2

FIG. 3

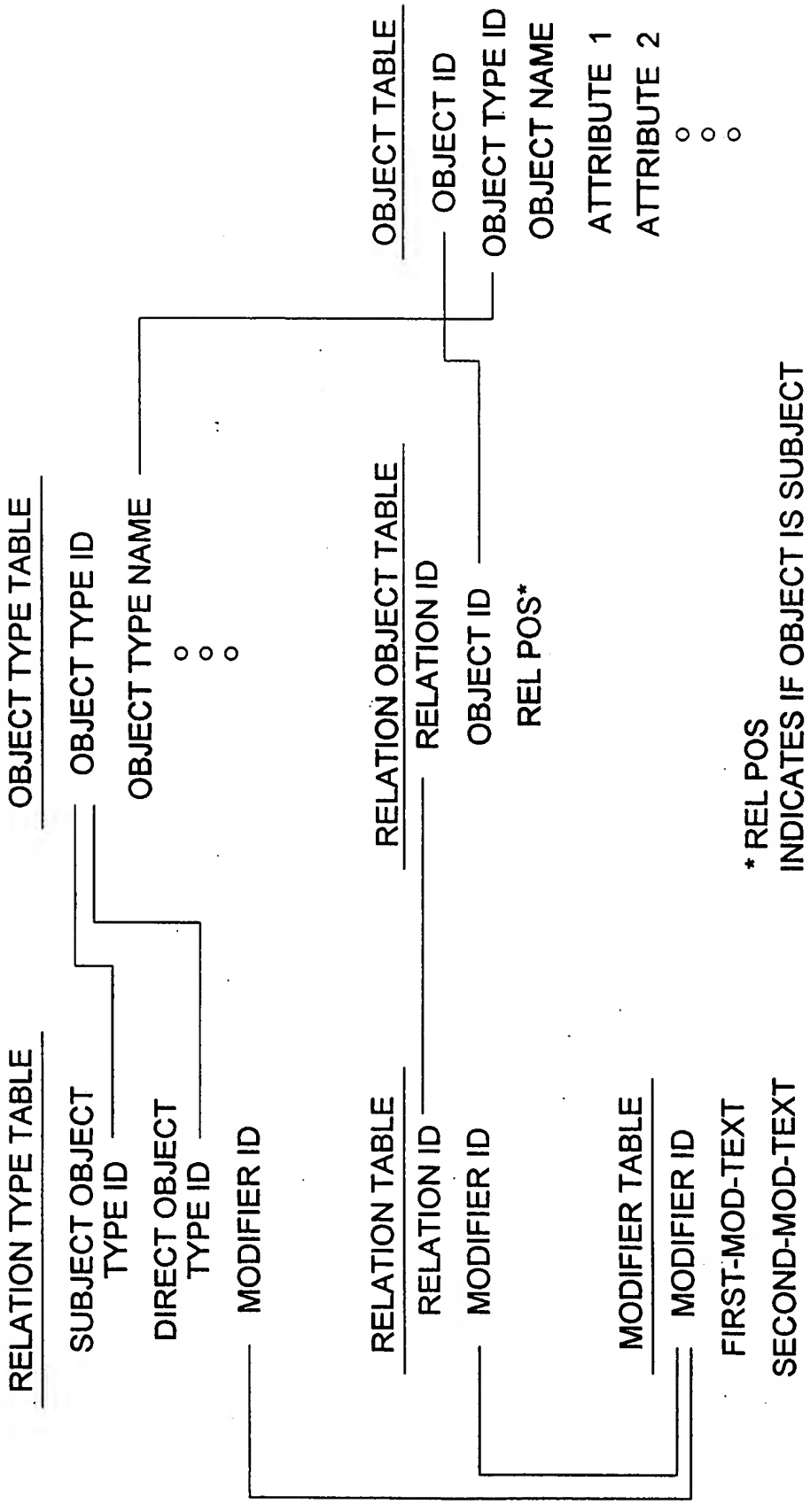
RELATION TYPE TABLE
SUBJECT OBJECT TYPE ID
DIRECT OBJECT TYPE ID
MODIFIER ID
OBJECT TYPE TABLE
OBJECT TYPE ID
OBJECT TYPE NAME
RELATION TABLE
RELATION ID
MODIFIER ID
RELATION OBJECT TABLE
RELATION ID
OBJECT ID
REL POS*
MODIFIER TABLE
MODIFIER ID
FIRST-MOD-TEXT
SECOND-MOD-TEXT
OBJECT TABLE
OBJECT ID
OBJECT TYPE ID
OBJECT NAME
ATTRIBUTE 1
ATTRIBUTE 2
* REL POS
INDICATES IF OBJECT IS SUBJECT
OBJECT OR DIRECT OBJECT

FIG. 4

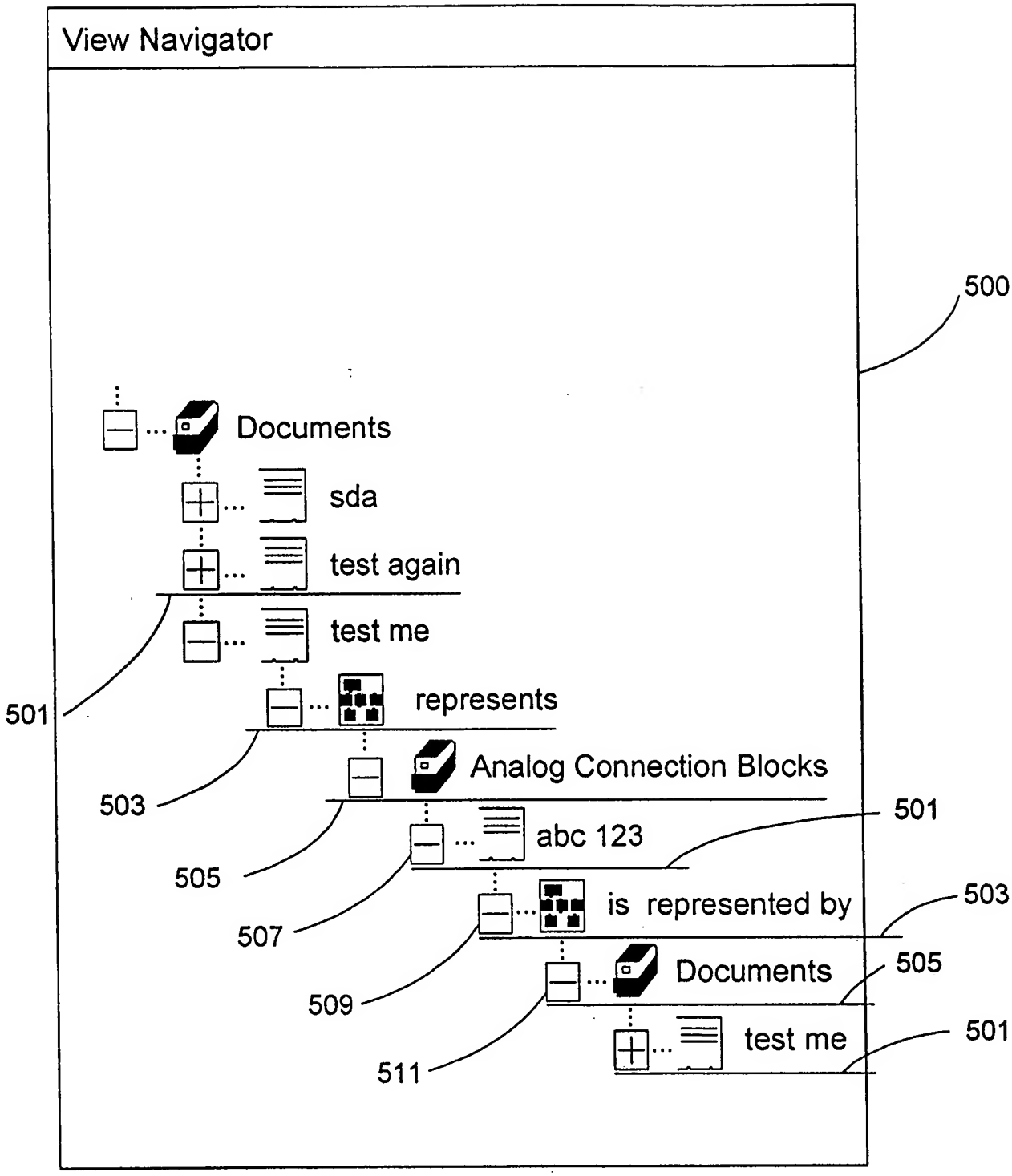
View Navigator
500
Documents
sda
test again
test me
501
represents
503
Analog Connection Blocks
505
abc 123
501
507
is represented by
503
509
Documents
505
511
test me
501

FIG. 5A

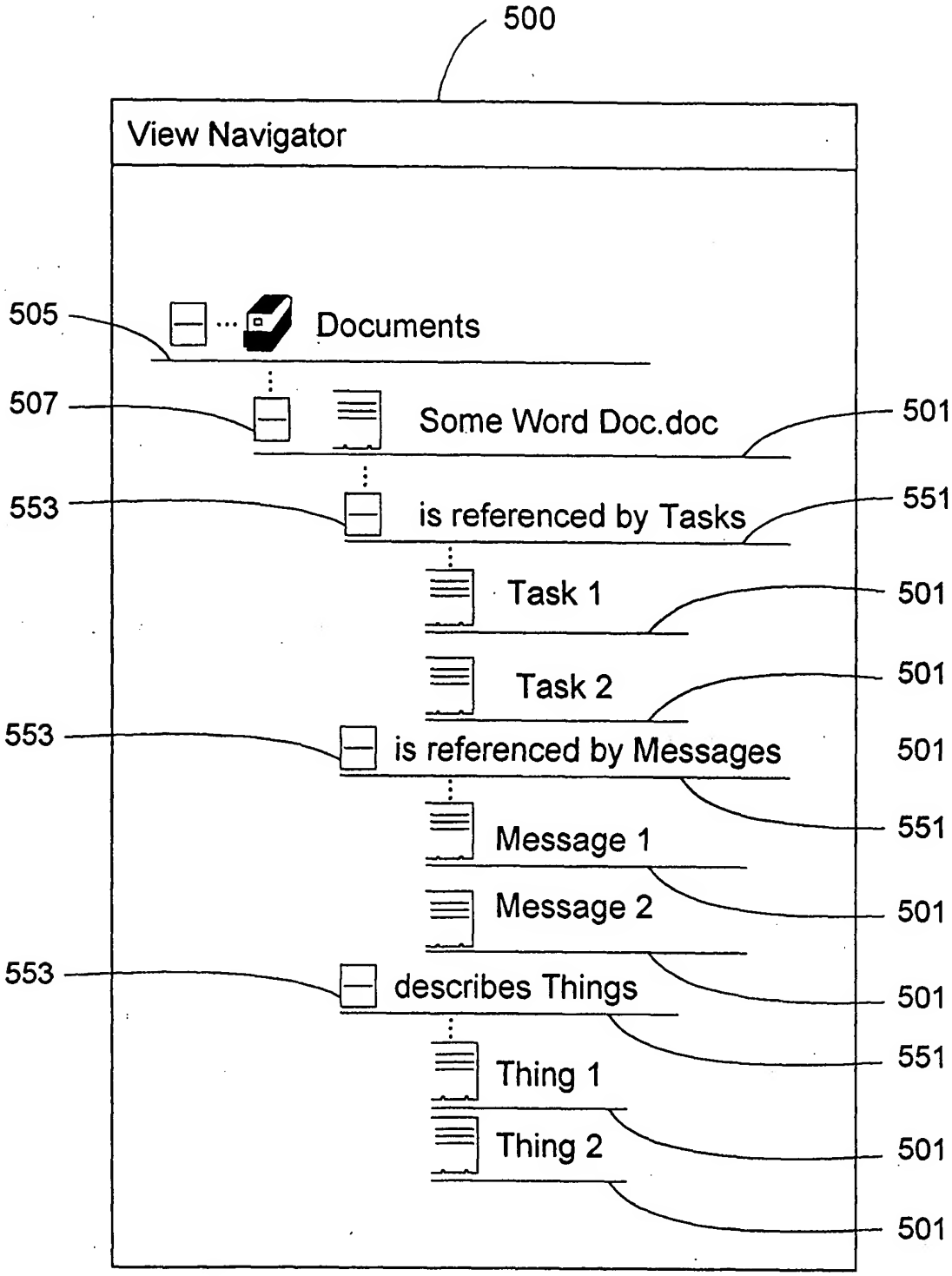
500
View Navigator
505
Documents
507
Some Word Doc.doc
501
553
is referenced by Tasks
551
Task 1
501
Task 2
501
553
is referenced by Messages
501
551
Message 1
Message 2
501
553
describes Things
501
551
Thing 1
Thing 2
501
501

FIG. 5B

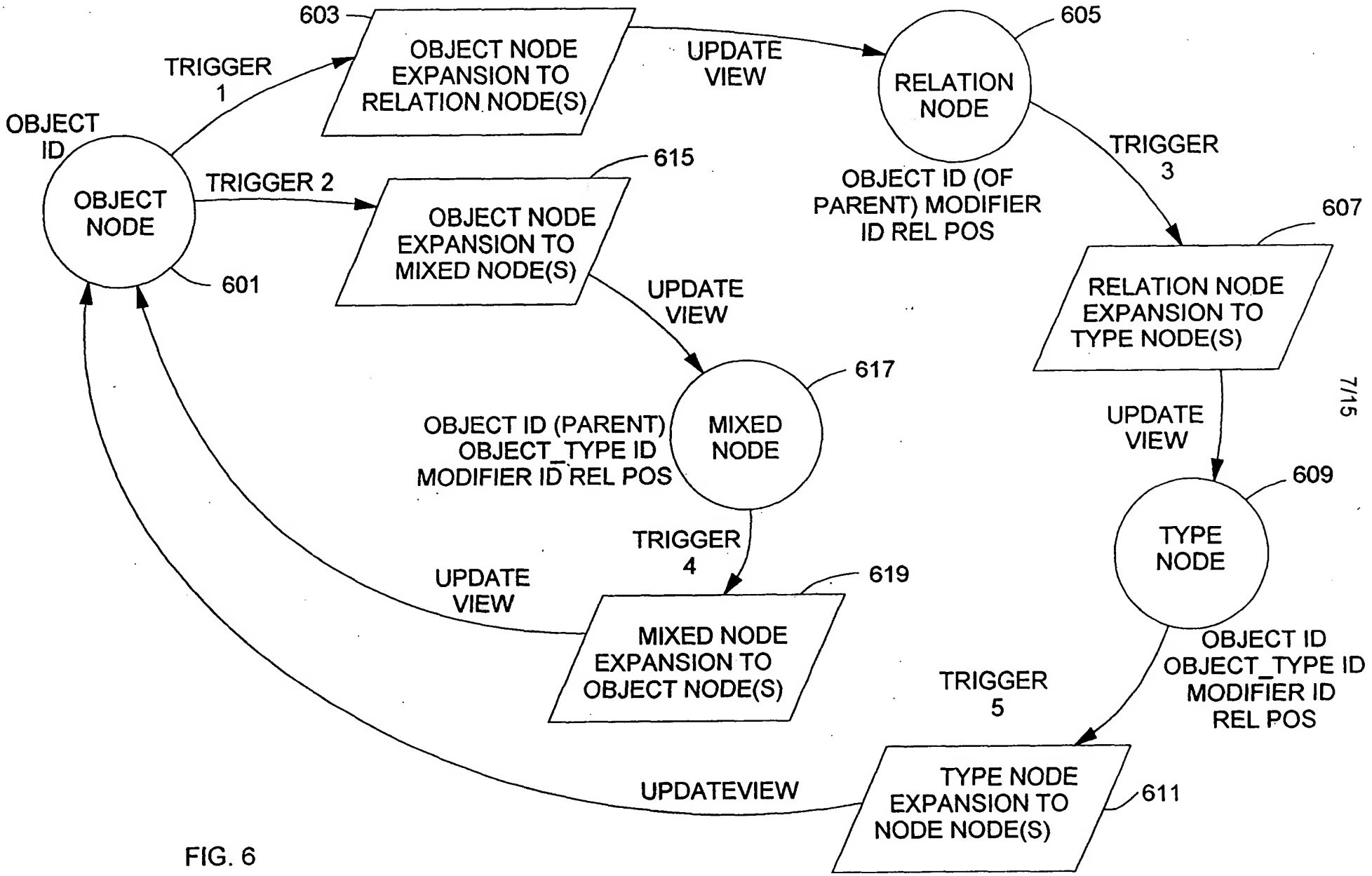
603
OBJECT NODE EXPANSION TO RELATION NODE(S)
TRIGGER 1
OBJECT ID
OBJECT NODE
601
TRIGGER 2
615
OBJECT NODE EXPANSION TO MIXED NODE(S)
UPDATE VIEW
617
OBJECT ID (PARENT) OBJECT_TYPE ID MODIFIER ID REL POS
MIXED NODE
TRIGGER 4
619
MIXED NODE EXPANSION TO OBJECT NODE(S)
UPDATE VIEW
UPDATE VIEW
605
RELATION NODE
OBJECT ID (OF PARENT) MODIFIER ID REL POS
TRIGGER 3
607
RELATION NODE EXPANSION TO TYPE NODE(S)
UPDATE VIEW
609
TYPE NODE
OBJECT ID OBJECT_TYPE ID MODIFIER ID REL POS
TRIGGER 5
TYPE NODE EXPANSION TO NODE NODE(S)
611
UPDATEVIEW
715

FIG. 6

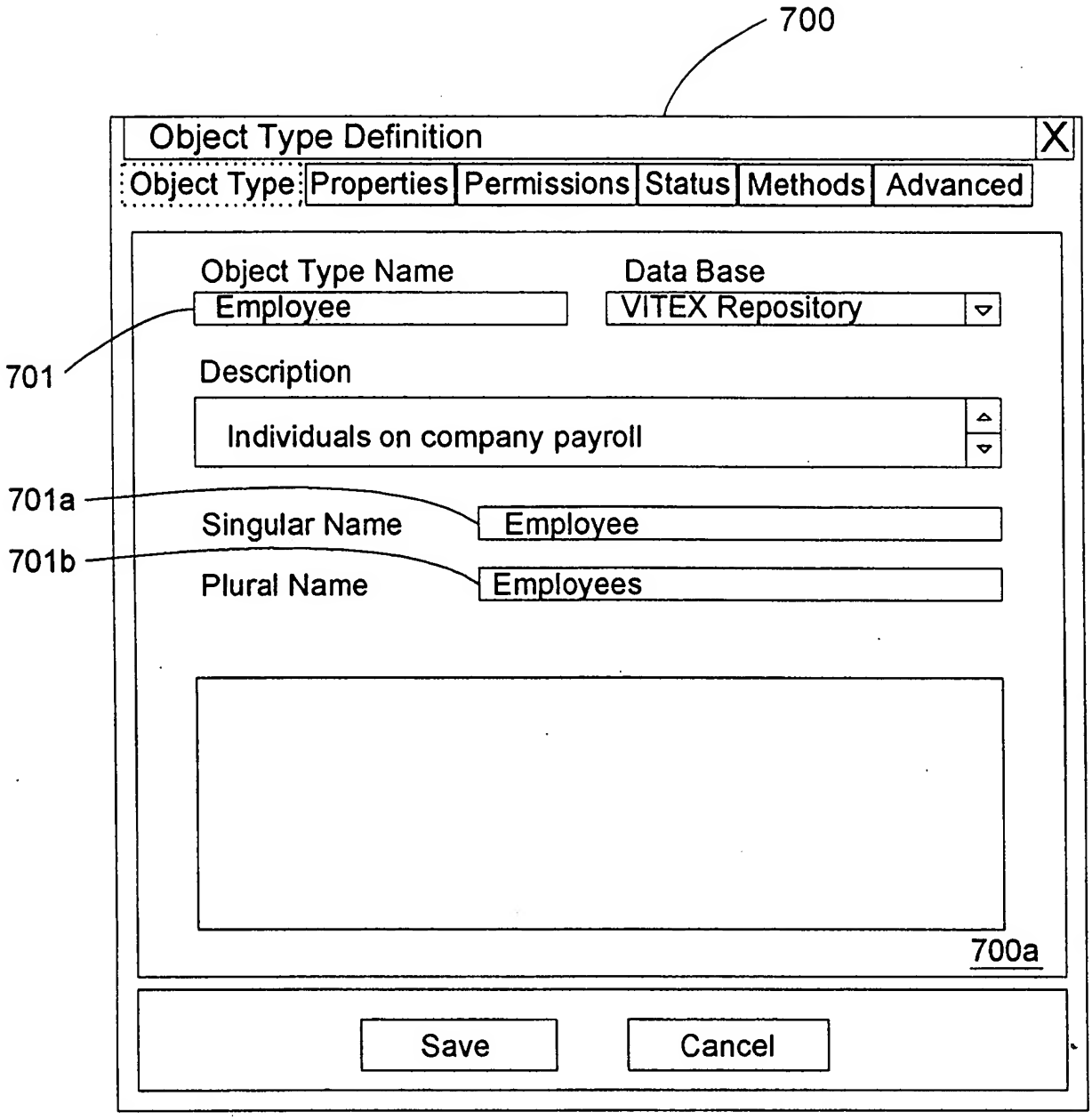
700
Object Type Definition
X
Object Type
Properties
Permissions
Status
Methods
Advanced
Object Type Name
Employee
Data Base
VITEX Repository
701
Description
Individuals on company payroll
701a
Singular Name
Employee
701b
Plural Name
Employees
700a
Save
Cancel

FIG. 7A

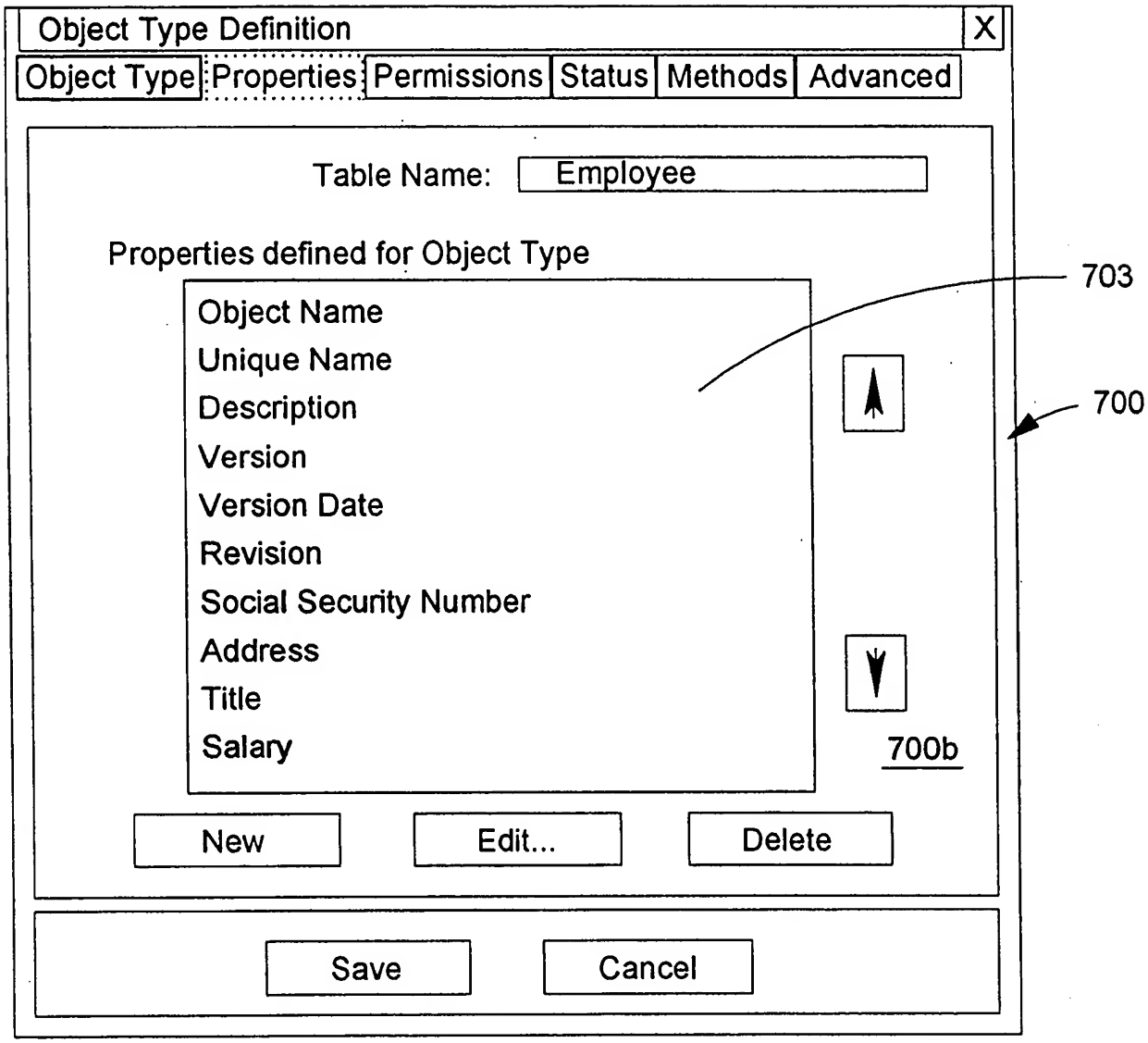
Object Type Definition
X
Object Type
Properties
Permissions
Status
Methods
Advanced
Table Name:
Employee
Properties defined for Object Type
Object Name
Unique Name
Description
Version
Version Date
Revision
Social Security Number
Address
Title
Salary
703
700
700b
New
Edit...
Delete
Save
Cancel

FIG. 7B

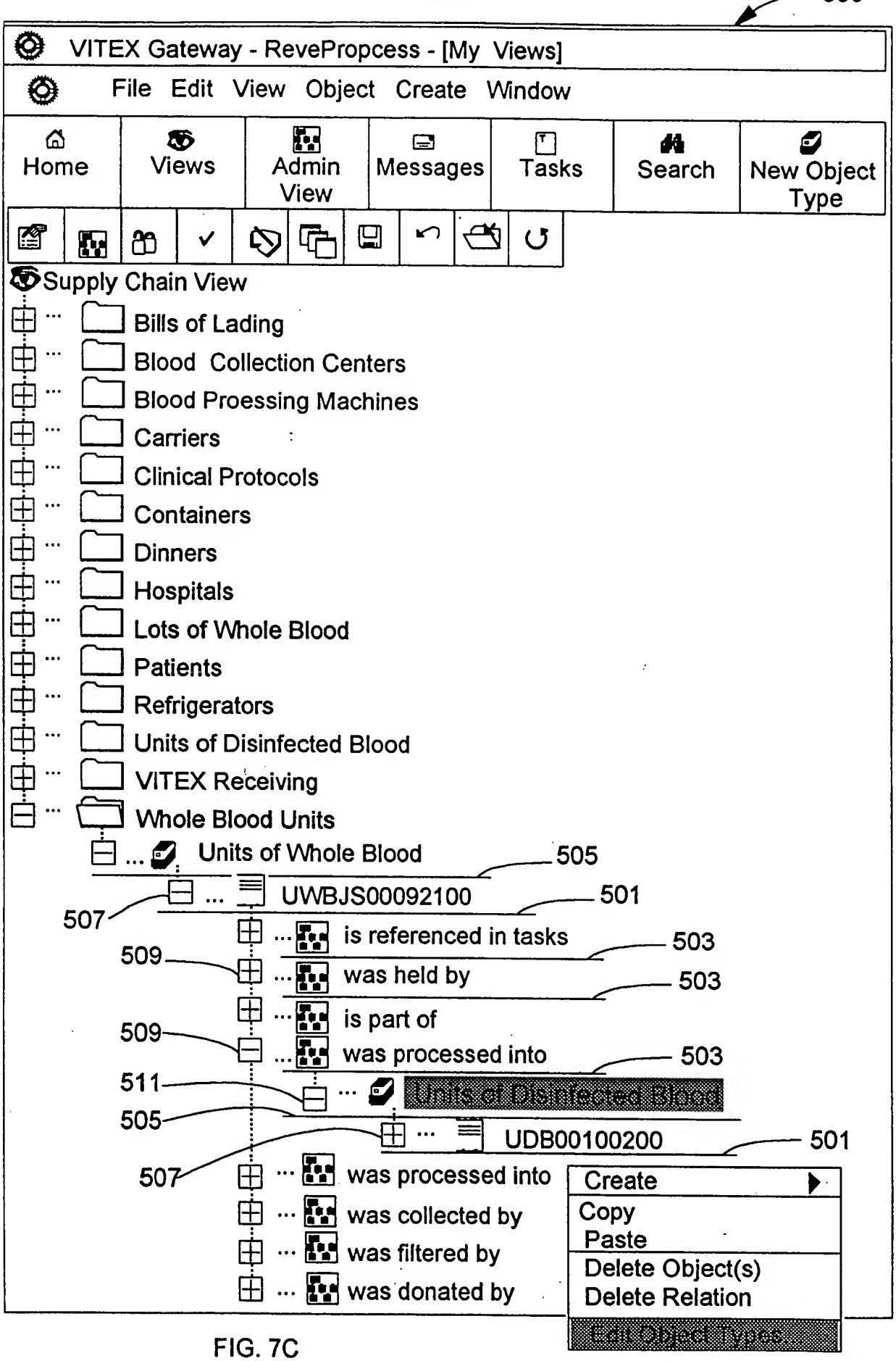
500
VITEX Gateway - RevePropcess - [My Views]
File Edit View Object Create Window
Home
Views
Admin View
Messages
Tasks
Search
New Object Type
Supply Chain View
Bills of Lading
Blood Collection Centers
Blood Proessing Machines
Carriers
Clinical Protocols
Containers
Dinners
Hospitals
Lots of Whole Blood
Patients
Refrigerators
Units of Disinfected Blood
VITEX Receiving
Whole Blood Units
Units of Whole Blood
505
UWBJS00092100
501
507
is referenced in tasks
503
509
was held by
503
is part of
509
was processed into
503
511
Units of Disinfected Blood
505
UDB00100200
501
507
was processed into
was collected by
was filtered by
was donated by
Create
Copy
Paste
Delete Object(s)
Delete Relation
Edit Object Types

FIG. 7C

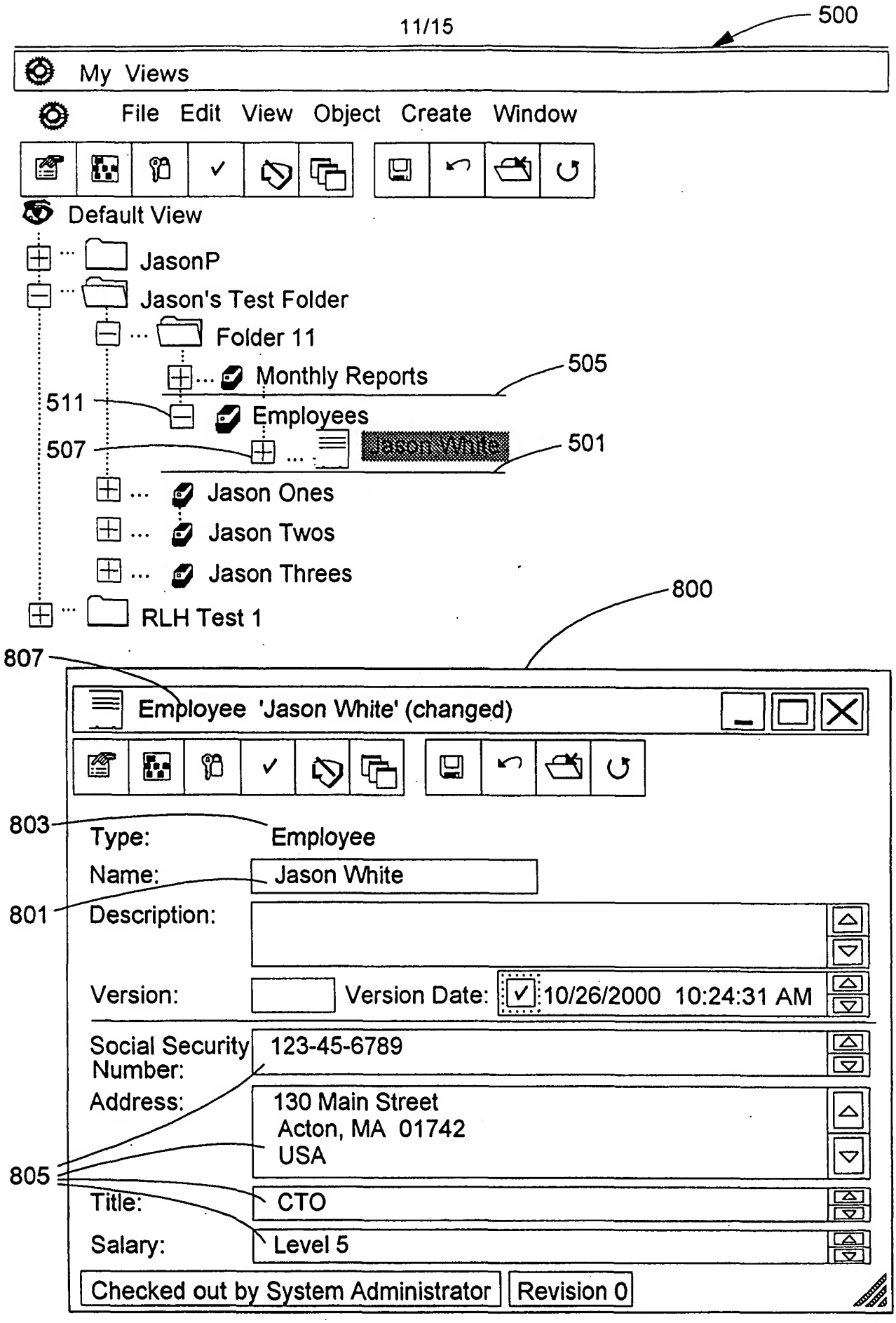
500
My Views
File Edit View Object Create Window
Default View
JasonP
Jason's Test Folder
Folder 11
Monthly Reports
505
511
Employees
507
Jason White
501
Jason Ones
Jason Twos
Jason Threes
RLH Test 1
800
807
Employee 'Jason White' (changed)
803
Type:
Employee
Name:
Jason White
801
Description:
Version:
Version Date:
10/26/2000 10:24:31 AM
Social Security Number:
123-45-6789
Address:
130 Main Street
Acton, MA 01742
USA
805
Title:
CTO
Salary:
Level 5
Checked out by System Administrator
Revision 0

FIG. 8A

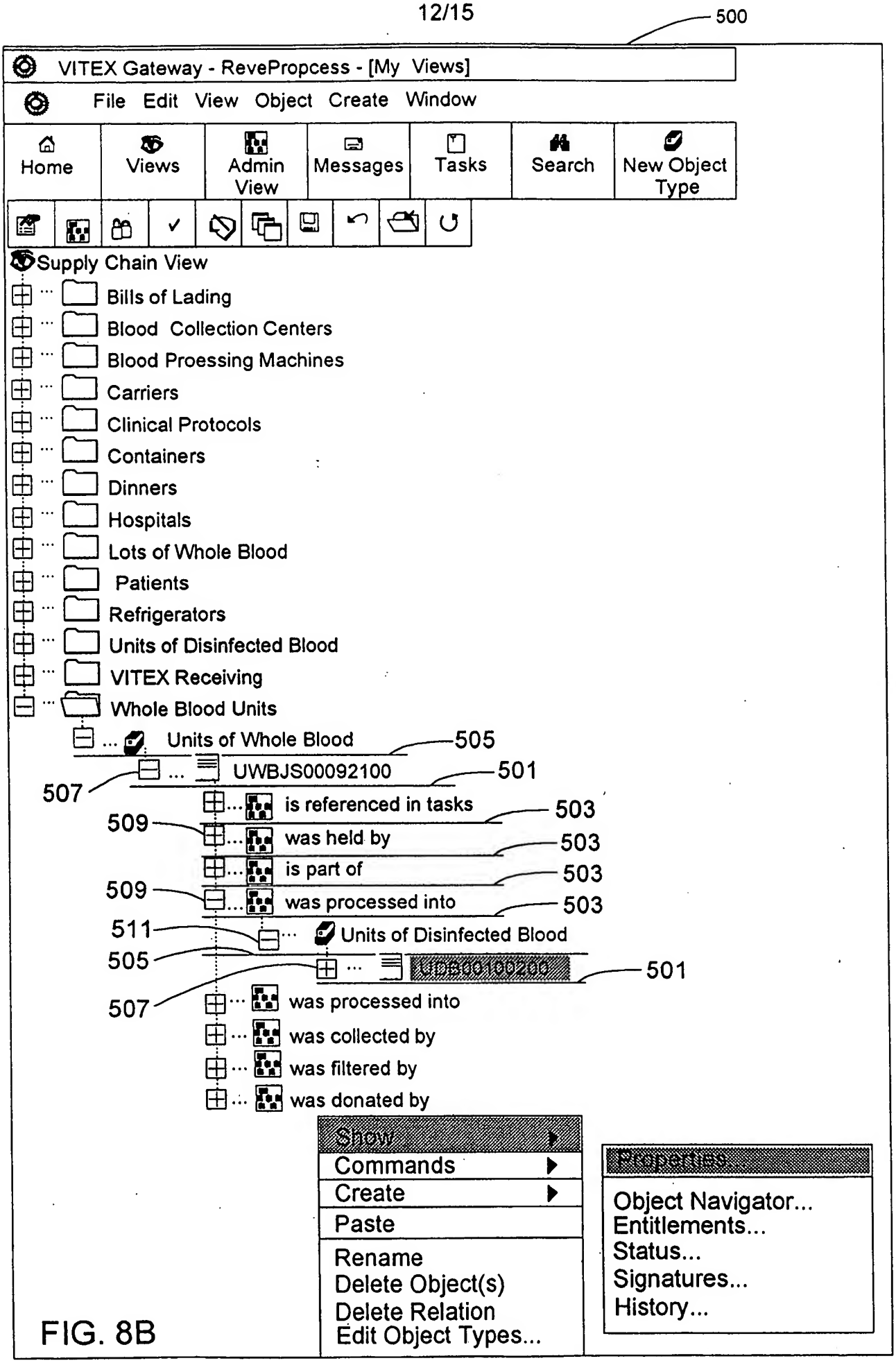
500
VITEX Gateway - RevePropcess - [My Views]
File Edit View Object Create Window
Home
Views
Admin View
Messages
Tasks
Search
New Object Type
Supply Chain View
Bills of Lading
Blood Collection Centers
Blood Proessing Machines
Carriers
Clinical Protocols
Containers
Dinners
Hospitals
Lots of Whole Blood
Patients
Refrigerators
Units of Disinfected Blood
VITEX Receiving
Whole Blood Units
Units of Whole Blood
505
UWBJS00092100
501
507
is referenced in tasks
503
509
was held by
503
is part of
503
509
was processed into
503
511
Units of Disinfected Blood
505
UDB00100200
501
507
was processed into
was collected by
was filtered by
was donated by
Show
Commands
Create
Paste
Rename
Delete Object(s)
Delete Relation
Edit Object Types...
Properties
Object Navigator...
Entitlements...
Status...
Signatures...
History...

FIG. 8B

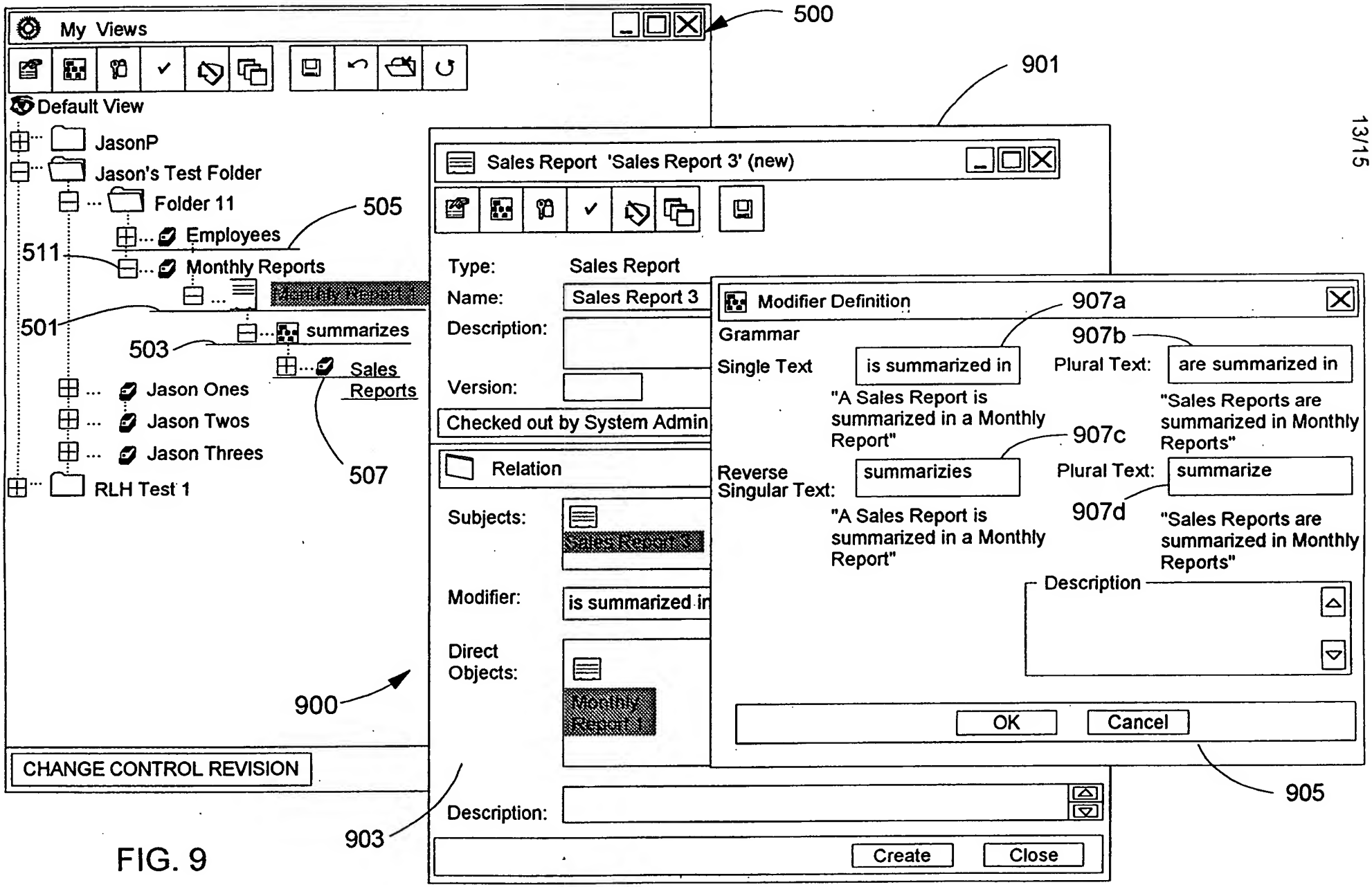
My Views
500
Default View
JasonP
Jason's Test Folder
Folder 11
505
Employees
511
Monthly Reports
501
summarizes
503
Sales Reports
507
Jason Ones
Jason Twos
Jason Threes
RLH Test 1
900
CHANGE CONTROL REVISION
901
Sales Report 'Sales Report 3' (new)
Type: Sales Report
Name: Sales Report 3
Description:
Version:
Checked out by System Admin
Relation
Subjects:
Sales Report 3
Modifier:
is summarized in
Direct Objects:
Monthly Report 1
Description:
903
Create
Close
Modifier Definition
907a
Grammar
907b
Single Text
is summarized in
Plural Text:
are summarized in
"A Sales Report is summarized in a Monthly Report"
"Sales Reports are summarized in Monthly Reports"
907c
Reverse Singular Text:
summarizies
Plural Text:
summarize
907d
"A Sales Report is summarized in a Monthly Report"
"Sales Reports are summarized in Monthly Reports"
Description
OK
Cancel
905

FIG. 9

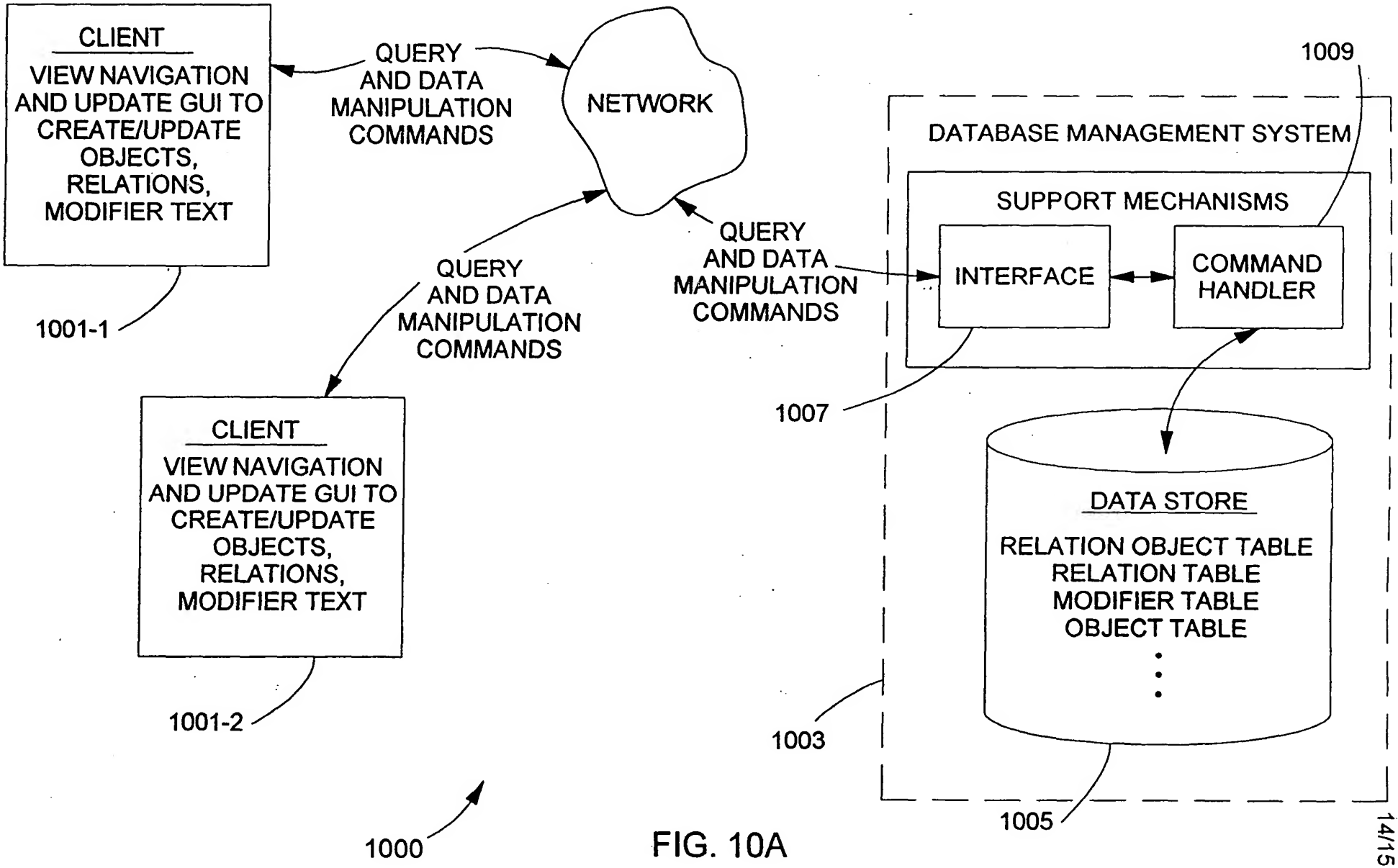
CLIENT
VIEW NAVIGATION AND UPDATE GUI TO CREATE/UPDATE OBJECTS, RELATIONS, MODIFIER TEXT
1001-1
QUERY AND DATA MANIPULATION COMMANDS
NETWORK
QUERY AND DATA MANIPULATION COMMANDS
QUERY AND DATA MANIPULATION COMMANDS
CLIENT
VIEW NAVIGATION AND UPDATE GUI TO CREATE/UPDATE OBJECTS, RELATIONS, MODIFIER TEXT
1001-2
1000
1009
DATABASE MANAGEMENT SYSTEM
SUPPORT MECHANISMS
INTERFACE
COMMAND HANDLER
1007
DATA STORE
RELATION OBJECT TABLE
RELATION TABLE
MODIFIER TABLE
OBJECT TABLE
1003
1005

FIG. 10A

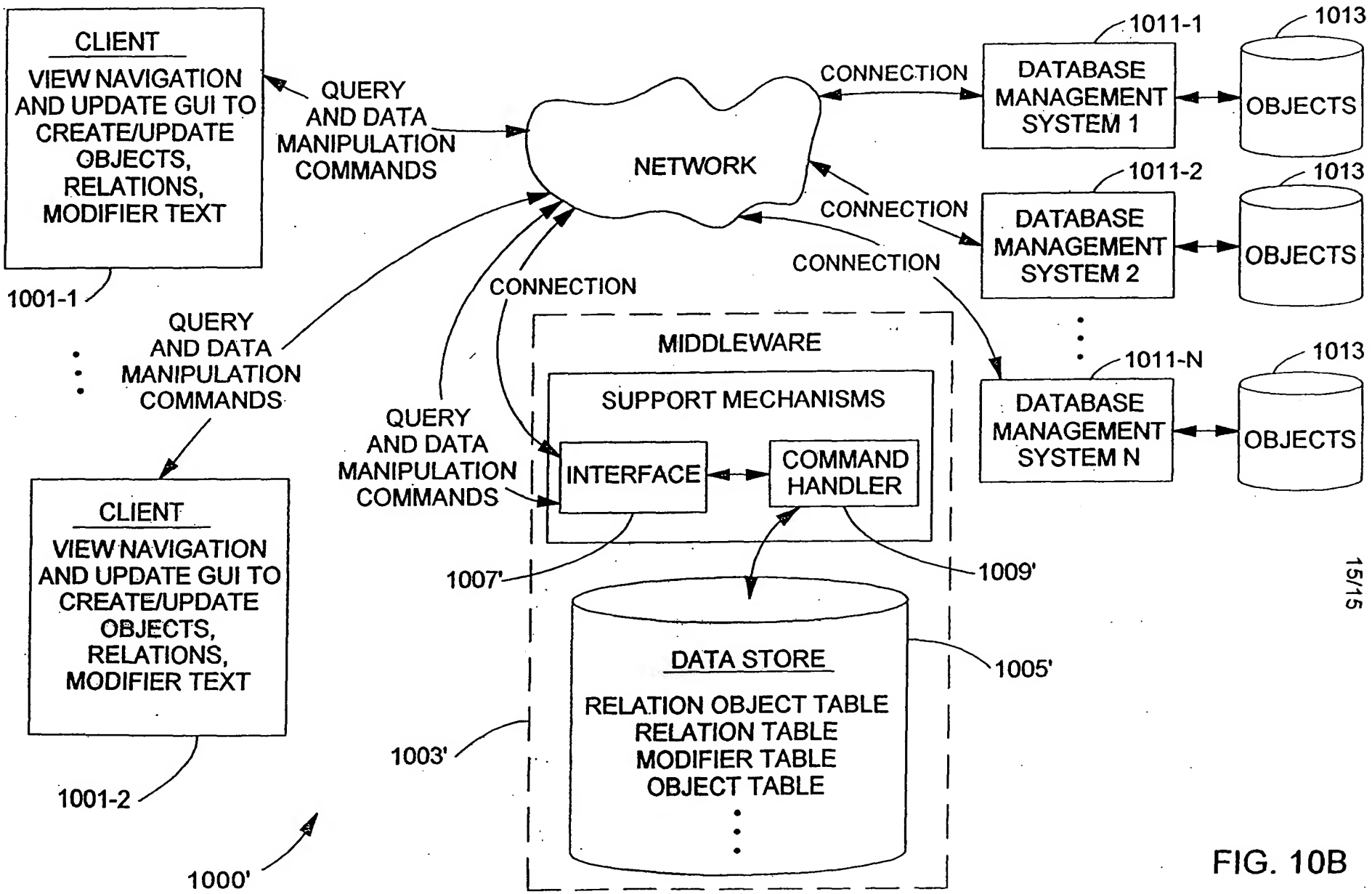
CLIENT
VIEW NAVIGATION AND UPDATE GUI TO CREATE/UPDATE OBJECTS, RELATIONS, MODIFIER TEXT
1001-1
QUERY AND DATA MANIPULATION COMMANDS
NETWORK
CONNECTION
1011-1
DATABASE MANAGEMENT SYSTEM 1
1013
OBJECTS
CONNECTION
1011-2
DATABASE MANAGEMENT SYSTEM 2
1013
OBJECTS
CONNECTION
1011-N
DATABASE MANAGEMENT SYSTEM N
1013
OBJECTS
QUERY AND DATA MANIPULATION COMMANDS
CONNECTION
MIDDLEWARE
SUPPORT MECHANISMS
INTERFACE
COMMAND HANDLER
QUERY AND DATA MANIPULATION COMMANDS
1007'
1009'
DATA STORE
RELATION OBJECT TABLE
RELATION TABLE
MODIFIER TABLE
OBJECT TABLE
1005'
1003'
CLIENT
VIEW NAVIGATION AND UPDATE GUI TO CREATE/UPDATE OBJECTS, RELATIONS, MODIFIER TEXT
1001-2
1000'
15/15

FIG. 10B